CLAIMS

What is claimed is:

1. An enterprise system, comprising:

a plurality of artifacts; and

a smart distance between said plurality of artifacts.

2. The enterprise system according to claim 1, wherein said enterprise system comprises a virtual enterprise system.

3. The enterprise system according to claim 1, wherein said plurality of artifacts comprise at least one of a person, an object, a database, an autonomous element, an intelligent agent, and an information system.

4. The enterprise system according to claim 1, wherein a plurality of interactions are formed between artifacts in said plurality of artifacts, said interactions comprising at least one of a video channel, an audio channel and a text channel.

5. The enterprise system according to claim 1, wherein said smart distance comprises an optimal degree of awareness, communication and interaction between artifacts in said plurality of artifacts.

6. The enterprise system according to claim 1, further comprising:

a calculator for calculating said smart distance among artifacts according to a predetermined algorithm, said algorithm comprising:

representing a distance from a_i to a_j as a vector $d_{ij} = \langle | c_1 |, \cdots, | c_{I_{ij}} | \rangle$;

representing the distance configurations at time τ for a given enterprise by a matrix $D(\tau) = \begin{pmatrix} d_{11}(\tau), \cdots, d_{1n}(\tau) \\ \cdots \\ d_{n1}(\tau), \cdots, d_{nn}(\tau) \end{pmatrix}$; and

minimizing $\| D(\tau) - D_{natural}(\Omega(\tau)) \|$,

wherein an interaction between said artifacts comprises channels $c_1, \ldots c_{Iij}$, $|c_{Iij}|$ comprises a degree of interaction for a channel c_{Iij}, $\Omega(\tau)$ comprises a given contextual/ environmental condition at time τ , and $D_{natural}(\Omega(\tau))$ comprises a natural distance configuration.

7. The enterprise system according to claim 1, further comprising:

a smart distance enabled adaptive document community, and wherein said plurality of artifacts comprises at least one adaptive document.

8. The enterprise system according to claim 7, wherein said smart distance comprises a distance between said at least one adaptive document and one of a person, an agent, and another adaptive document.

9. The enterprise system according to claim 7, wherein said at least one adaptive document comprises a local registry.

10. The enterprise system according to claim 9, further comprising:

a global awareness server,

wherein said adaptive document interacts with other artifacts via said global awareness server.

11. An apparatus for providing a smart distance among artifacts of an enterprise system, comprising:

at least one processing device for determining said smart distance using contextual information captured by a state machine, and a smart distance preference as recorded by a local registry,

wherein a smart distance between artifacts is determined relative to other smart distances between artifacts in said enterprise system.

12. The apparatus according to claim 11, wherein said smart distance comprises one of an adaptive smart distance and an on-demand smart distance.

13. The apparatus according to claim 11, wherein said processing device introduces said smart distance into said enterprise system.

14. The apparatus according to claim 11, wherein said smart distance comprises an adaptive document (Adoc).

15. The apparatus according to claim 11, further comprising:

an input device for inputting a smart distance requirement into different artifacts in said enterprise system.

16. The apparatus according to claim 11, wherein a best interaction configuration is negotiated and selected at any time and under any contextual situation, to facilitate post-editing.

17. The apparatus according to claim 11, wherein said apparatus is operable in a changing environment and is just-in-time (JIT) adaptable.

18. The apparatus according to claim 11, wherein said apparatus comprises an on-demand system which is derived from a transformed traditional information system.

19. The apparatus according to claim 11, wherein said smart distance is standardized such that said apparatus is operable across a plurality of enterprise systems.

20. The apparatus according to claim 11, wherein an interaction between said artifacts comprises a flexible range of interactions.

21. A method for providing a smart distance among artifacts of an enterprise system, comprising:

providing a plurality of artifacts; and

calculating a smart distance between said plurality of artifacts.

22. The method according to claim 21, wherein said calculating said smart distance comprises:

representing a distance from a_i to a_j as a vector $d_{ij} = \langle | c_1 |, \cdots, | c_{I_{ij}} | \rangle$;

representing the distance configurations at time τ for a given enterprise by a matrix $D(\tau) = \begin{pmatrix} d_{11}(\tau), \cdots, d_{1n}(\tau) \\ \cdots \\ d_{n1}(\tau), \cdots, d_{nn}(\tau) \end{pmatrix}$; and

minimizing $\| D(\tau) - D_{natural}(\Omega(\tau)) \|$,

wherein an interaction between said artifacts comprises channels $c_1, \ldots c_{Iij}$, $|c_{Iij}|$ comprises a degree of interaction for channel c_{Iij}, $\Omega(\tau)$ comprises a given contextual/environmental condition at time τ, and $D_{natural}(\Omega(\tau))$ comprises a natural distance configuration.

23. A virtual enterprise system, comprising:

at least one processing device for determining a smart distance between artifacts using contextual information and a smart distance preference, said smart distance being determined relative to other smart distances between artifacts in said enterprise system.

24. The virtual enterprise system according to claim 23, further comprising:

a state machine operatively coupled to said at least one processing device, for capturing said contextual information; and

a local registry, operatively coupled to said at least one processing device, for recording said smart distance preference.

25. The virtual enterprise system according to claim 23, wherein said virtual enterprise system comprises an engineering and construction (E&C) resource management system, which controls resource acquisition and procurement and resource allocation and scheduling, optimally manages a supply chain including changes from various unexpected events, controls and optimizes distributed resources at both individual project level and global level, and manages risk.

26. The virtual enterprise system according to claim 23, wherein said smart distance comprises a distance between employees, partners, vendors, and customers in a virtual enterprise system.

27. The virtual enterprise system according to claim 23, further comprising:

a graphical user interface for displaying a smart distance enabled view.

28. The virtual enterprise system according to claim 27, wherein said smart distance enabled view comprises:

an area for displaying construction processes monitoring and key component status checking;

an area for displaying materials to be ordered this week,

an area for displaying materials to be received this week,

an area for displaying projects and status, such as whether the project is on/behind/ahead of schedule and whether the project is on/over/under budget; and

an area for displaying an adaptive gateway for sense and response, in which the user may click on a corresponding item to activate an adaptive functionality.

29. The virtual enterprise system according to claim 28, wherein a user clicks on said area for displaying said adaptive gateway to generate at least one of an events detected and autonomous action display screen, events detected and waiting for actions display screen, update or change a scheduled plan display screen, and an input unexpected events/disruptions display screen.

30. A programmable storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method for providing a smart distance among artifacts of an enterprise system, said method comprising:

providing a plurality of artifacts; and

calculating a smart distance between said plurality of artifacts.

31. A method for deploying computing infrastructure in which computer-readable code is integrated into a computing system, such that said code and said computing system combine to perform a method for providing a smart distance among artifacts of an enterprise system, said method for providing a smart distance among artifacts of an enterprise system, comprising:

providing a plurality of artifacts; and

calculating a smart distance between said plurality of artifacts.

32. A method for deploying computing infrastructure in which computer-readable code is integrated into a computing system, such that said code and said computing system combine to perform a method for providing a smart distance among artifacts of an enterprise system, said method for providing a smart distance among artifacts of an enterprise system, comprising:

determining said smart distance using contextual information captured by a state machine, and a smart distance preference as recorded by a local registry,

wherein a smart distance between artifacts is determined relative to other smart distances between artifacts in said enterprise system.

33. A method for deploying computing infrastructure in which computer-readable code is integrated into a computing system, such that said code and said computing system combine to perform a method for providing a smart distance among artifacts of an enterprise system, said method for providing a smart distance among artifacts of an enterprise system, comprising:

calculating said smart distance among artifacts according to a predetermined algorithm, said algorithm comprising:

representing a distance from a_i to a_j as a vector $d_{ij} = \langle | c_1 |, \cdots, | c_{I_{ij}} | \rangle$;

representing the distance configurations at time τ for a given enterprise by a

matrix $D(\tau) = \begin{pmatrix} d_{11}(\tau), \cdots, d_{1n}(\tau) \\ \cdots \\ d_{n1}(\tau), \cdots, d_{nn}(\tau) \end{pmatrix}$; and

minimizing $\| D(\tau) - D_{natural}(\Omega(\tau)) \|$,

wherein an interaction between said artifacts comprises channels $c_1, \ldots c_{Iij}$, $|c_{Iij}|$ comprises a degree of interaction for a channel c_{Iij}, $\Omega(\tau)$ comprises a given contextual/ environmental condition at time τ , and $D_{natural}(\Omega(\tau))$ comprises a natural distance configuration.